

effects in spreading it would be still more powerful than they might indeed cause it to arise independently in several individuals. This would explain the curious rigidity with which many species of plants and animals are localized within particular sometimes quite small areas. We may be unable to trace, or to imagine, a connection between the circumstances of a place and some spots on a bird's or a butterfly's wing. But our ignorance, or incapacity, does not entitle us to deny the possibility of its existence. Within recent times a dark variety of the peppered moth (*Amphidasis betularia*), formerly very rare, has spread very greatly in the "black country" of the north of England. It seems probable that there are local conditions which favour it.

To suppose that variations have been spread by imitation may appear to be altogether fantastic. It recalls the success of Jacob in breeding ring-straked sheep; the story appears incredible, but not a few practical breeders believe that the colour of a calf may be affected by the colour of the cow's stall companion. Nature abounds with illustrations of mimicry, and we must not hastily conclude that an impulse to imitate could not work subconsciously, or that it could not disturb the tendency of the reproductive cells simply to repeat the growth of the preceding generation. Butterflies mimic other butterflies, even dead leaves, and are themselves mimicked by moths;

caterpillars and other insects mimic twigs and foliage: there is a great tendency for creatures to take the colour of their environment; we subconsciously mimic peculiarities of manner in our companions; families that migrate to a new

¹ One of the most effectively deceptive mimicries is that of a humble-bee (*Bombus agrorum*) by a fly (*Volucella bombylans*).
These insects inhabit the same nest.